

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-9 (canceled)

1 Claim 10 (previously presented): A computer readable medium  
2 encoded with computer executable instructions comprising:

3 a first set of executable instructions to receive  
4 digital audio signal frames wherein each digital audio  
5 signal frame has a set of specified frequency values  
6 expressed as a bit sequence;

7 a second set of executable instructions to Re-Map said  
8 bit sequence to represent lower frequencies with more  
9 significant bits and higher frequencies with less  
10 significant bits; and

11 a third set of executable instructions to facilitate  
12 additive synthesis of said digital audio signal frames in a  
13 reduced-precision recursive digital oscillator

14 wherein said recursive digital oscillator generates  
15 frequency  $f$  lying in the range from zero to one-half of a  
16 sampling frequency  $f_s$  including recursion coefficients  $x_n$   
17 given by  $x_n = 2x_{n-1} - \epsilon x_{n-1} - x_{n-2}$ , wherein  $\epsilon = 2 - 2 \cos(\omega)$   
18 and wherein  $\omega = 2\pi f/f_s$ , and

19 and wherein said Re-Mapping biases the generating  
20 frequency of said oscillator, whereby  $\epsilon$  is represented by an  
21 unsigned mantissa,  $m$ , combined with an unsigned exponent,  $e$ ,  
22 biased so that the actual represented value is  $\epsilon = 2^{2-e} m$ .

1       Claim 11 (currently amended): The computer readable ~~memory~~  
2       medium of claim 10 wherein said first set of executable  
3       instructions include instructions to identify a frequency  
4       coefficient representation of said specified frequency.

1       Claim 12 (currently amended): The computer readable ~~memory~~  
2       medium of claim 11 further comprising a fourth set of  
3       executable instructions to define said frequency coefficient  
4       representation with an exponent characterizing a  
5       floating-point range extension.

1       Claim 13 (currently amended): The computer readable ~~memory~~  
2       medium of claim 12 wherein said fourth set of executable  
3       instructions include instructions to specify said exponent  
4       to correspond to a right shift amount necessary to correct  
5       for precision limitations introduced by a reduced precision  
6       processor.

Claims 14-18 (canceled)